

**Work Order ID 71038**

Tuesday, June 21, 2011 1:12:56 PM



Page 1

Item ID: **D2646**

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Cap

Start Date: 6/21/2011 Start Qty: 12.00



Cust Item ID:

Required Date: 7/8/2011 Req'd Qty: 12.00



Customer:

Reference:

Approvals:

Process Plan:                     Date: 11-06-21Tooling:                     Date:                     

Run Start

QC:                     Date:                     SPC (Y/N):                     Date:                     

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D2646

Rev C

100

0.00



PURCHASING

Purchasing

Memo

0.00

Purchasing

Issue P/O: 14338 ☐ 1-Spin as per Dwg D2646 ☐ 2-Material release  
note requiredCZ 11/06/21 (12)

110

0.00



Receive &amp; Inspect for Damage &amp; Mat'l Certs

Packaging

Memo

0.00

Packaging

Ensure Material Release Note is attached

P4/7/4 (12)

120

0.00



QC6- Inspect dimensions to drawing

QC

Memo

0.00

Quality Control

8/1/07/07(47)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 71038**

Tuesday, June 21, 2011 1:12:56 PM



Page 2

Item ID: D2646

Accept



Setup Start



Revision ID:

Item Name: Aft Cap

Stop



Start Date: 6/21/2011 Start Qty: 12.00



Cust Item ID:

Required Date: 7/8/2011 Req'd Qty: 12.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130  Small Fab	Small Fab	0.00							
Small Fab	Memo	0.00							
Small Fab	1-Drill using DT8026 as per Dwg D2646. □2-Open holes to .297 as per Dwg D2646. □3-Deburr								
140  QC	QC5- Inspect part completeness to step on W/O	0.00							
Quality Control	Memo	0.00							
150  HandFinish	Chemical Conversion Coat per QSI005 4.1	0.00							
Hand Finishing	Memo	0.00							

GS 11/07/12 (12)

8 11/07/12

(42)

12 φ 11-7-12.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 71038**

Tuesday, June 21, 2011 1:12:56 PM



Page 3

Item ID: D2646

Accept



Setup Start



Revision ID:

Item Name: Aft Cap

Stop



Start Date: 6/21/2011 Start Qty: 12.00



Cust Item ID:

Required Date: 7/8/2011 Req'd Qty: 12.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
155  SprayPaint Spray Painting	Memo PRIME B 117319 DELFLEET BLUE B 115485 DELFLEET CLEAR B 117113	0.00 0.00							
165  QC Quality Control	QC14- Inspect Spray Paint  Memo	0.00 0.00							
180  Small Fab Small Fab	Small Fab  Memo Install inserts as per Dwg D2646	0.00 0.00							

85 11-07-12 (12)

11 07 13 (12)

12 11/07/13

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 71038**

Tuesday, June 21, 2011 1:12:56 PM



Page 4

Item ID: D2646

Accept



Setup Start



Revision ID:

Stop



Item Name: Aft Cap

Start Date: 6/21/2011 Start Qty: 12.00



Cust Item ID:

Required Date: 7/8/2011 Req'd Qty: 12.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
190  QC Quality Control	QC5- Inspect part completeness to step on W/O  Memo	0.00  0.00				<u>M</u>	<u>11</u>	<u>07</u>	<u>13</u> (12)
200  Packaging Packaging	Identify as per dwg & Stock Location: <u>FP-5</u>  Memo	0.00  0.00				<u>12</u>	<u>0</u>	<u>11</u>	<u>07</u> 11/07/13
210  QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00  0.00							11/7/13 <u>[Signature]</u> MF 11-07-15

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Picklist Print

Tuesday, June 21, 2011 1:13:02 PM

Page 1

Work Order ID: 71038

Parent Item: D2646

Parent Item Name: Aft Cap



Start Date: 6/21/2011

Required Date: 7/8/2011

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP: G05.08.22 Hole size revised in Step 5 KJ/JLM  
 IPP Rev:H Changed Inserts 07-02-19 JLM  
 IPP rev I changed inserts 07.06.11 EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
ALS7-1032-130  Insert		Purchased	No			110	Each	1,623.000	2	24		6/27/13	
				<u>Location</u>		<u>Loc Qty</u>		<u>Loc Code</u>					
				ST282		1623							
				117717		1623				x24			
D2646P  Aft Cap		Purchased	No			180	Each	0.0000	1	12		6/27/13	(12)

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

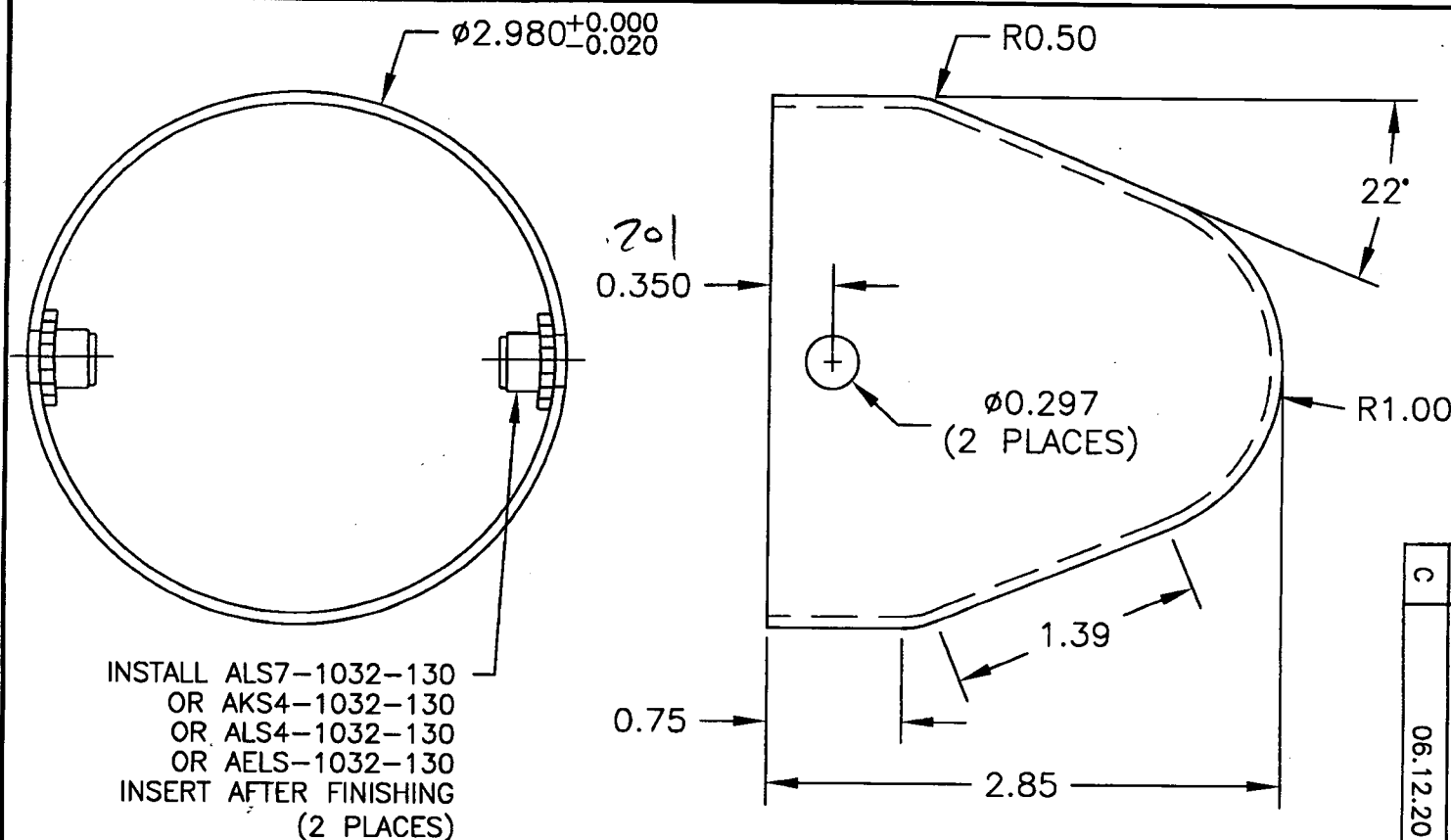
Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**DART**

DESIGN	DS	DRAWN BY	PH	DART AEROSPACE USA, INC.	PORT HADLOCK, WA	REV. C
CHECKED		APPROVED		DRAWING NO.	D2646	SHEET 1 OF 1
DATE	06.12.20			TITLE	AFT CAP	SCALE
						1:1
A		97.03.25		NEW ISSUE		
B		05.04.01		CHANGE TO CLOSED INSERTS		
C		06.12.20		CHANGE TO OPEN ENDED INSERTS		



**D2646 AFT CAP**

- 1) MATERIAL: ALUMINUM 1100-0 0.063 THICK (QQ-A-250/1)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
POWDER COAT ASSEMBLY WHITE (4.3.5.1) PER DART QSI 005 4.3
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

SHOP COPY  
RETURN TO  
ENGINEERING  
UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER

NO. 71638 PL1104-2

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.

Copyright © 1997 by DART AEROSPACE USA, INC.

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



# Sieg's Manufacturing Ltd. Packing Slip

Metal Spinning & Metal Fabricating

6236 205 Street

Langley, BC, Canada V2Y 1N7

Phone:(604)530 7455 Fax:(604)530-7490

Check out our website: [www.siegsfmfg.com](http://www.siegsfmfg.com)

Packing Slip No.:

39392

Date:

06/29/2011

Page:

1

<b>Sold to:</b>	<b>Ship to:</b>
<b>DART AEROSPACE LTD.</b> 1270 ABERDEEN STREET HAWKESBURY, ONTARIO K6A 1K7	DART AEROSPACE LTD. 1270 ABERDEEN STREET HAWKESBURY, ONTARIO K6A 1K7
<b>Order No.:</b> 14338	<b>Sold By:</b> KAULBARS, ARLA
<b>Shipped By:</b>	<b>Ship Date:</b> 06/29/2011
<b>Tracking No.:</b>	

Item No.	Unit	Description	Quantity
D2646P	Each	Spin aft cap	50
Comment:			



## Sieg's Manufacturing Ltd.

6236 205 Street Langley, B.C. Canada V2Y 1N7

Ph#: (604)530-7455 fax#: (604)530-7490

arla@siegsmsg.com

### INSPECTION REPORT

Date: June 28, 2011  
Customer: Dart Aerospace  
Packing Slip: 39392

Part#:	Quantity	Material	Check holes	Insp. By.
D2646P	50	1100-0 (063)	N/A	TD

Notes:

---

---

---

---

---

Material Certification Attached: ☒



Alumax Mill Products, Inc.  
(an Alcoa Inc. business)  
1480 Manheim Pike  
Lancaster, Pa. 17601

# Certification of Test Results

SOLD TO

COPPER & BRASS SALES INC  
22355 WEST ELEVEN MILE ROAD  
SOUTHFIELD, MI 48034

SHIP TO

LEVELTEK  
3236 STATE ROAD 39  
PO BOX 148  
LA PORTE, IN 46352

CERT NO 0001260979  
DATE 12/13/2010  
SKID NO 957160  
SKID WGT 6,439  
PAGE 1 OF 1

ORDER NO	LO0400	PO NO	5400080193-R01			MILL FINISH NON ANODIZE QUALITY OUT: STANDARD MILL FINISH IN: STANDARD MILL FINISH NOT EMBOSSED
ITEM NO	1	PART NO	ALFLR01226			
ALLOY	1100	TEMPER	O	FORM	COIL	
GAUGE	.06300	WIDTH	48.0000	LENGTH	0.0000	

Alcoa Certification 0001260979

LOT: 461649 COIL: B01 DROP: 0P06534

INGOT	SI	FE	CU	MN	MG	CR	NI	ZN	TI
0P06534	0.12	0.43	0.13	0.05	0.05	0.01	0.01	0.01	0.01

HEAD ULTIMATE STRENGTH 14.6 KSI  
TAIL ULTIMATE STRENGTH 15.0 KSI  
HEAD YIELD STRENGTH (OFFSET = .2%) 6.8 KSI  
TAIL YIELD STRENGTH (OFFSET = .2%) 5.0 KSI  
HEAD ELG IN 2 IN., AT FRACTURE 30 %  
TAIL ELG IN 2 IN., AT FRACTURE 30 %

CHEMICAL COMPOSITION ACCORDING TO ASTM E-1251-07  
CHEMISTRY EXPRESSED AS % W/W FOR EACH REPORTED ELEMENT  
MECHANICAL PROPERTIES ACCORDING TO ASTM B-557-10

MECHANICAL AND CHEMICAL PROPERTIES MEET THE REQUIREMENTS OF:

ASME SB209 1100 O ASTM B209-07 1100 O

ACCEPTABLE

\*\* END OF CERTIFICATION \*\*

BASED on SIMILARITY w/OTHE "H" DRAWN  
SPECS CALLING ASTM B209. FOR  
SHEET METAL ALUMINUM. (REF: H2024T35, H5052H325, H6061T65)

We hereby certify that, unless otherwise indicated, the material covered by this report has been manufactured, inspected, and tested in accordance with, and has been found to meet, the applicable requirements described herein, including any specifications forming a part of the description and that samples representative of the material met the composition. Also, note that mercury is not a normal contaminant in aluminum alloys and neither it nor any of its compounds are used in the manufacture of our product. Certification of test results shall not be reproduced except in full. This material was melted in the United States or a qualifying country (REF: DFARS 225.872-1A); It was manufactured in the United States.

These commodities, technology and software exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to U.S. law prohibited. This certification complies with EN 10204:2004.

Authorized By:

JEFF KREADY, LAB SUPERVISOR

